

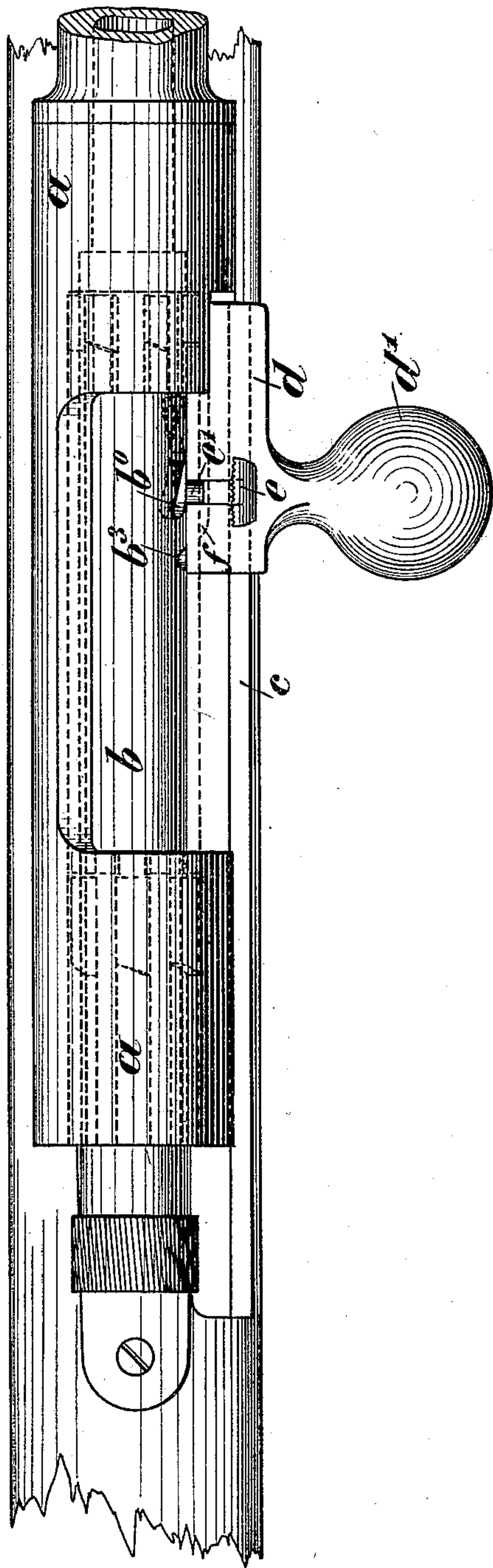
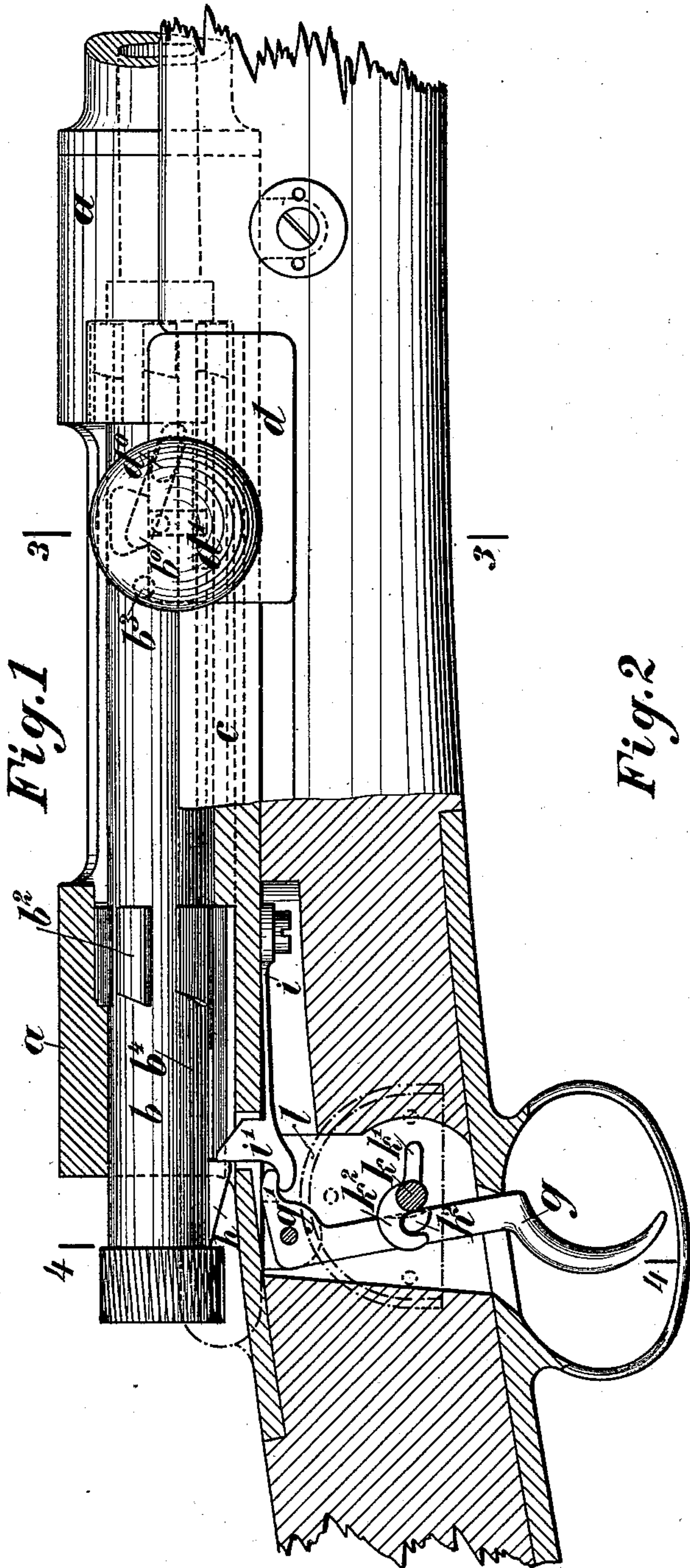
(No Model.)

3 Sheets—Sheet 1.

M. MONDRAGON.
BREECH LOADING BOLT GUN.

No. 557,079.

Patented Mar. 24, 1896.



Witnesses:

Marion Hall

H. Obermayer

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Attorneys.

(No Model.)

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Fig. 5

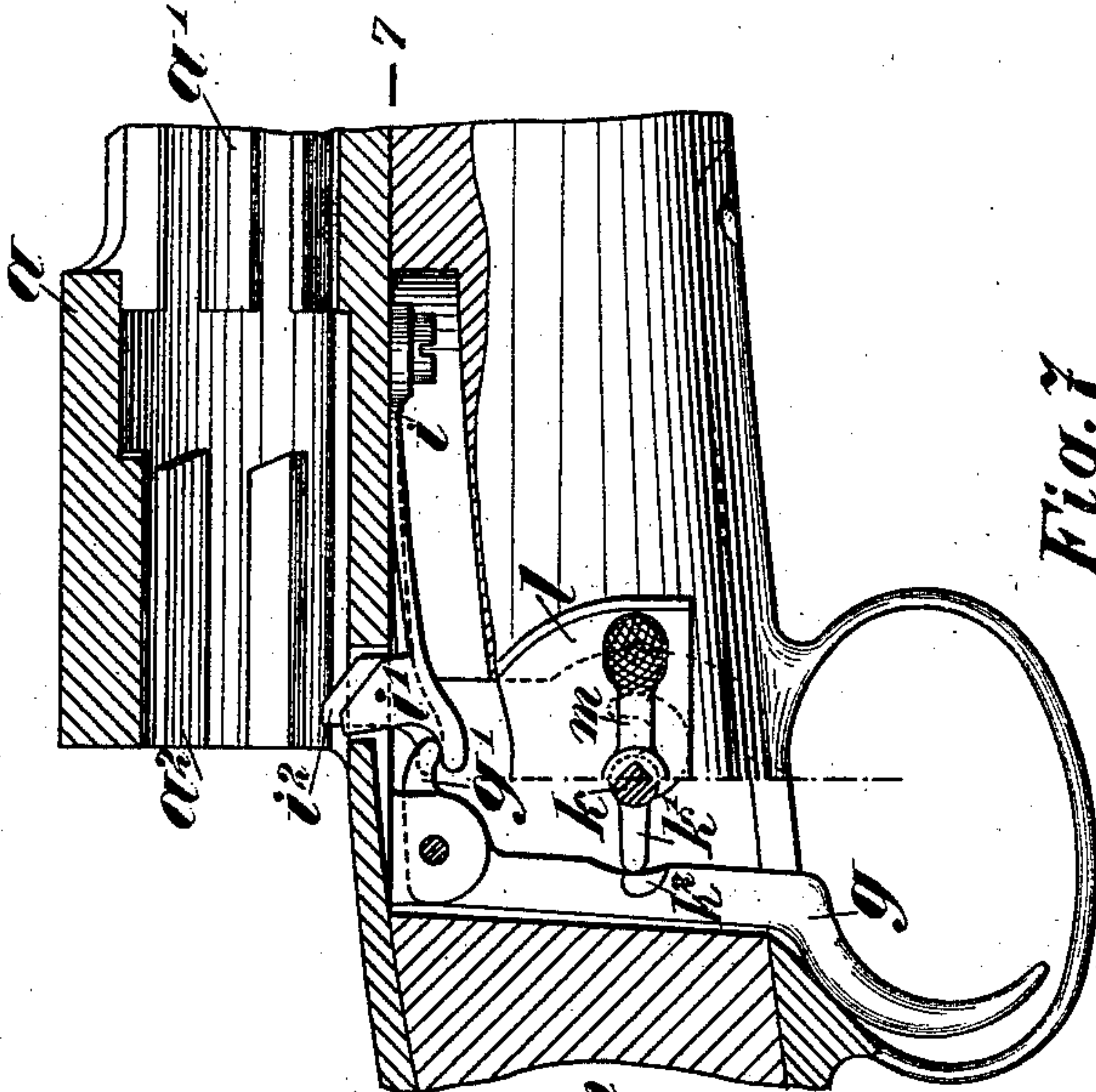


Fig. 7

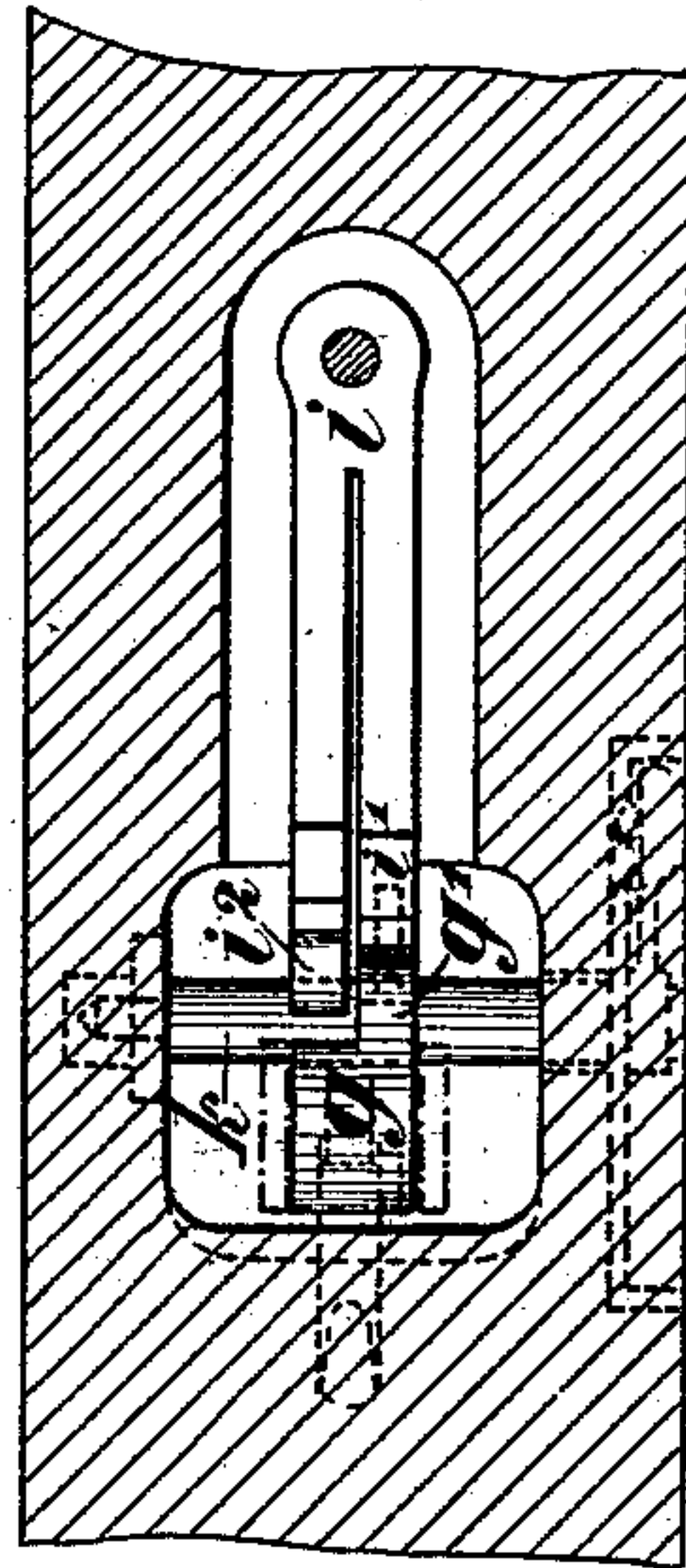


Fig. 4

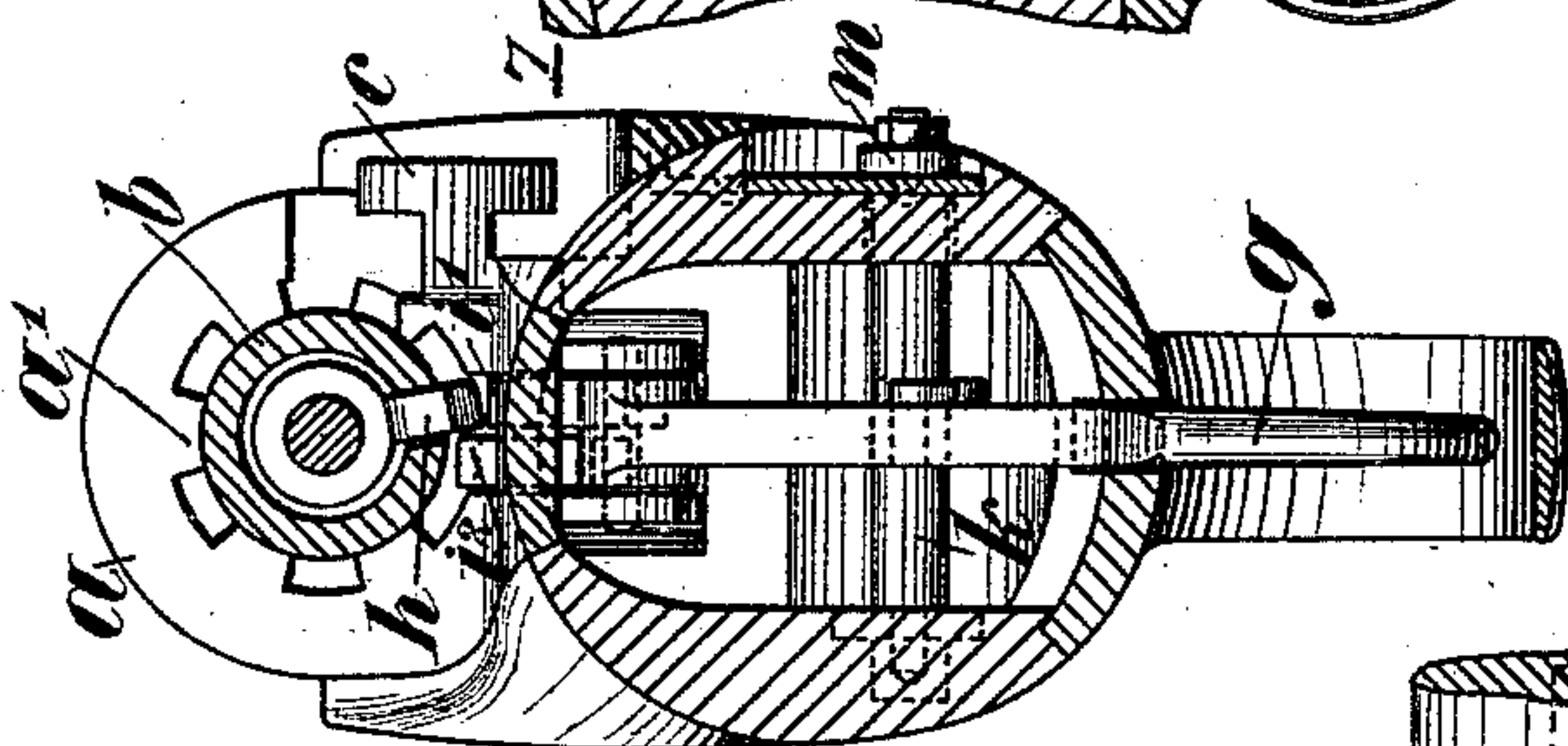


Fig. 3

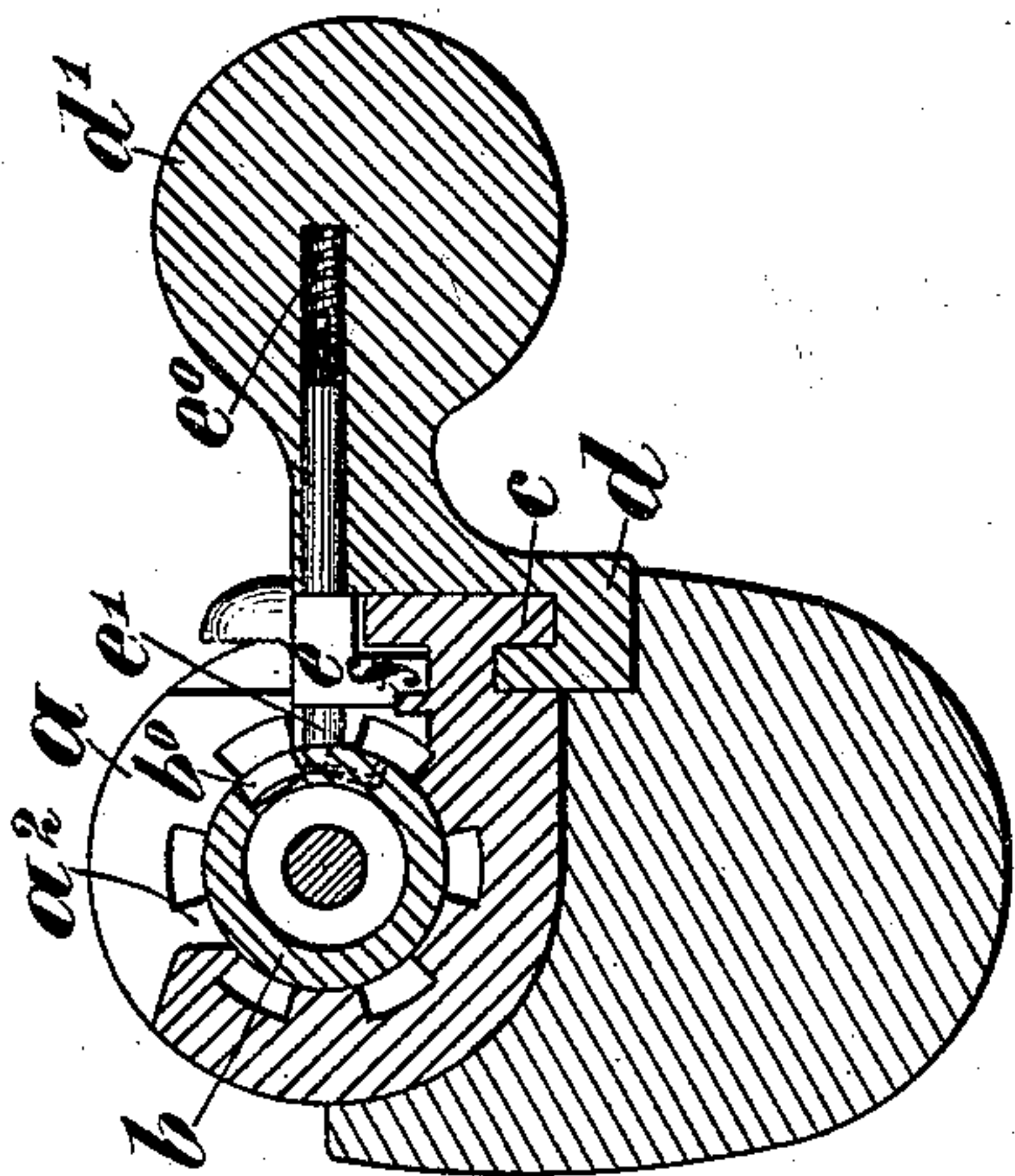
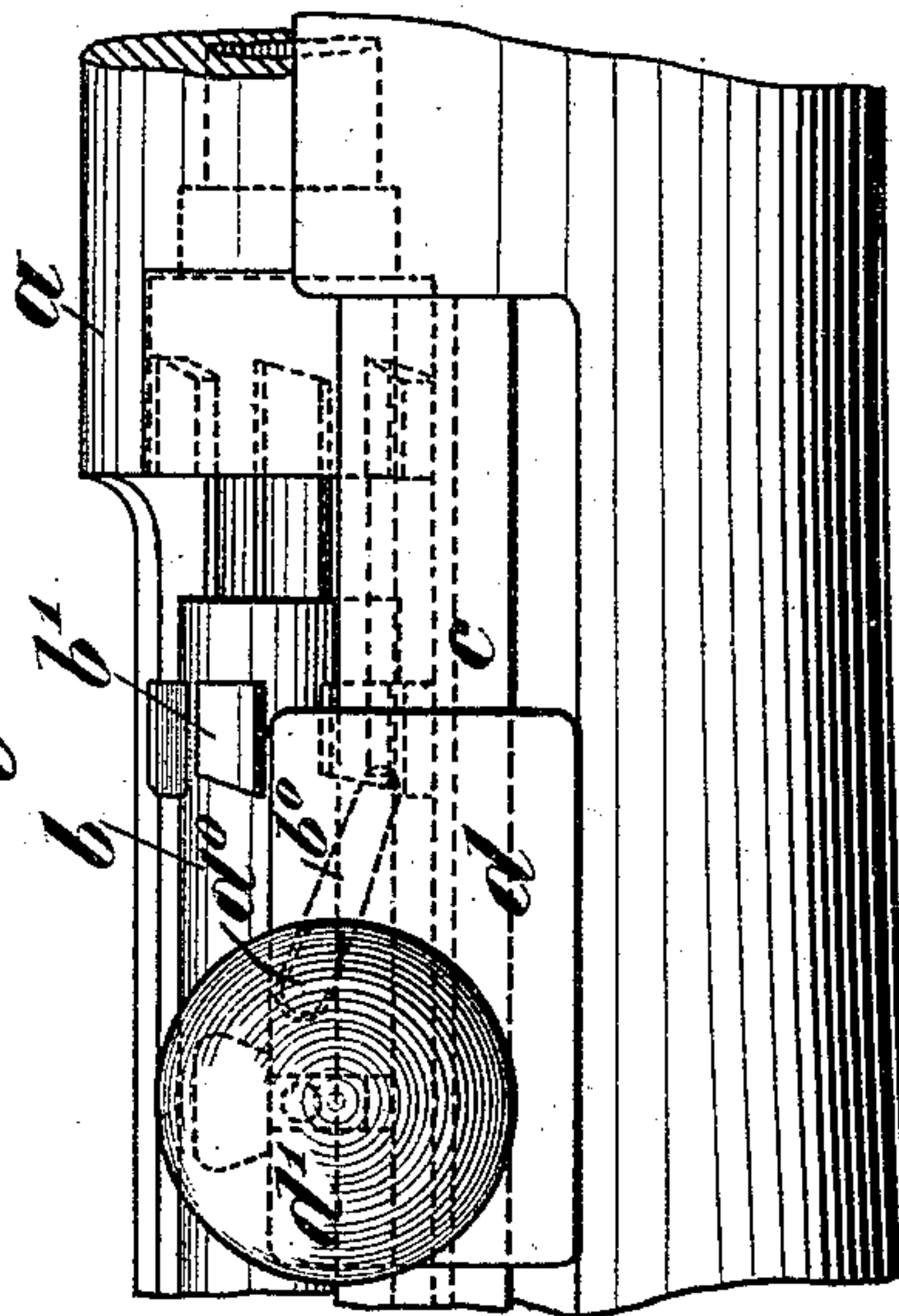


Fig. 6



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(No Model.)

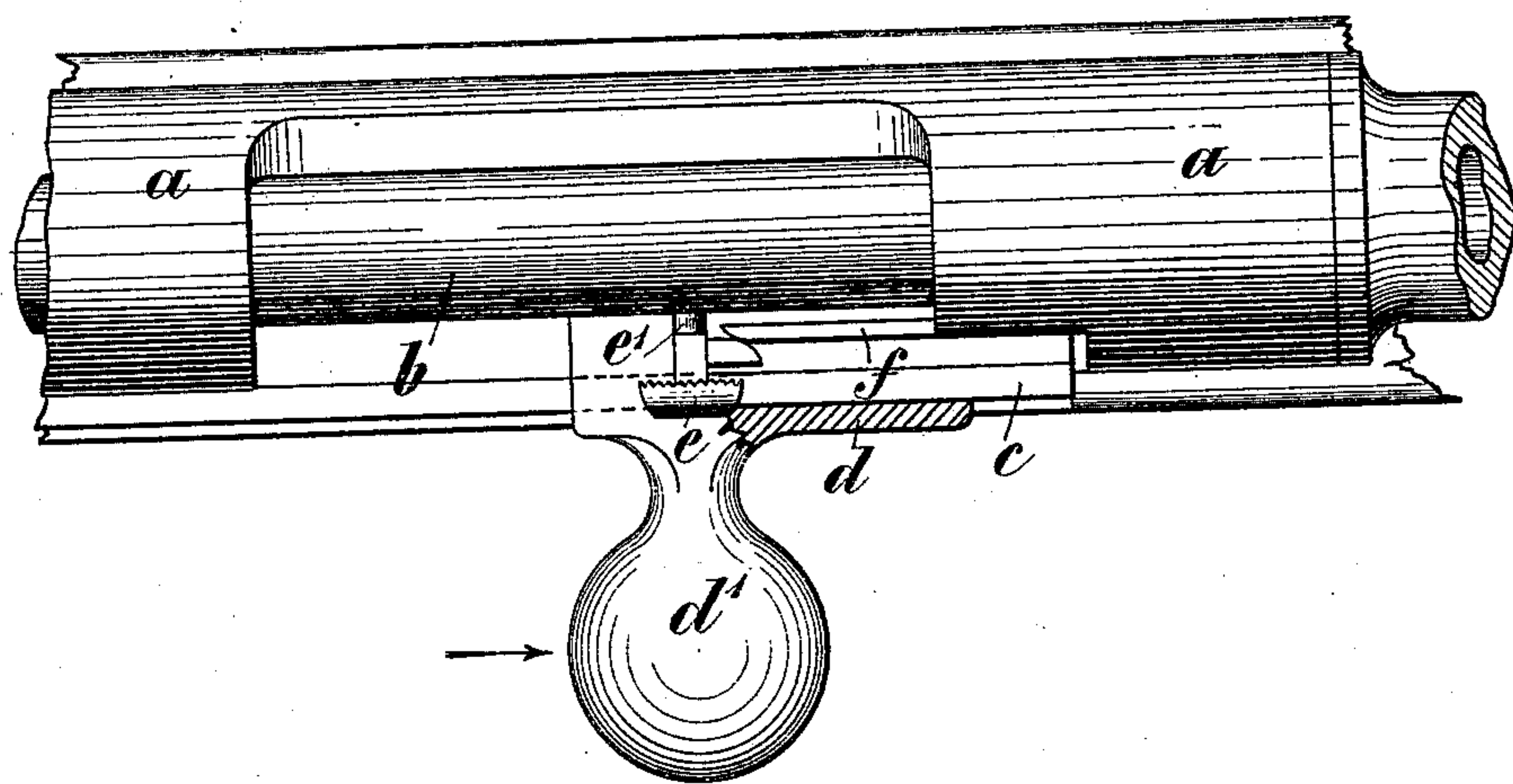
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Fig. 8



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UNITED STATES PATENT OFFICE.

MANUEL MONDRAGON, OF MEXICO, MEXICO, ASSIGNOR TO LECLERCQ & HIRT, OF LIEGE, BELGIUM.

BREECH-LOADING BOLT-GUN.

SPECIFICATION forming part of Letters Patent No. 557,079, dated March 24, 1896.

Application filed February 8, 1893. Serial No. 461,476. (No model.) Patented in Belgium March 23, 1892, No. 98,947, and in France April 20, 1892, No. 221,035.

To all whom it may concern:

Be it known that I, MANUEL MONDRAGON, a citizen of the Republic of Mexico, and a resident of Mexico, (Palacio Nacional,) in the Republic of Mexico, have invented certain new and useful Improvements in Breech-Loading Firearms, (for which I have obtained Letters Patent in Belgium, No. 98,947, dated March 23, 1892, and in France, No. 221,035, dated April 20, 1892,) of which the following is a specification.

This invention relates to improvements in breech-loading firearms in which the breech is opened and closed by moving the breech-bolt forward and backward in line of the axis of the barrel.

The invention consists in the combination with a breech-casing of a guide-bar on which the slide is mounted that is provided with a projecting pin passing into a spiral or inclined groove of the breech-bolt. The slide transmits to the breech-bolt a reciprocating movement and during the course of said movement turns the breech-bolt axially, so as to permit a latch on the slide to pass into an aperture on the breech-bolt, so that the breech-bolt after having been turned moves only in the direction of its length. A plate having a tapering end and secured on the breech-casing serves for the purpose of automatically disengaging the latch when the breech-bolt is to be turned axially. The breech-bolt is provided with a series of ribs, and two corresponding series of ribs are provided on the breech-casing, which ribs have beveled ends, so that when the breech-bolt is turned axially it is locked doubly secure.

The invention further consists in the attachment of means by which the gun can be fired automatically.

In the accompanying drawings, Figure 1 is a side view of my improved breech-loading firearm, parts being in section and the breech closed by the bolt. Fig. 2 is a plan view of the same, parts being broken out. Fig. 3 is a vertical transverse sectional view on line 3 3 of Fig. 1. Fig. 4 is a vertical transverse section on line 4 4 of Fig. 1. Fig. 5 is a vertical longitudinal sectional view of the breech of the firearm, showing the breech-bolt being

removed and the trigger being locked for automatic firing. Fig. 6 is a side view of the breech part of the firearm, showing the breech-bolt and latch after the first part of the movement toward the rear; and Fig. 7 is a sectional plan view on the line 7 7 of Fig. 5. Fig. 8 is a plan view of the means for moving forward the breech-bolt, parts being broken out.

Similar letters of reference indicate corresponding parts.

The breech-bolt *b* of the gun is provided at the front and near the rear end with two rows of short longitudinal ribs *b' b²*, separated circumferentially a short distance from each other, as shown in Figs. 1, 2 and 6, and the breech-casing *a* of the gun is provided with two sets of correspondingly-longitudinal short ribs *a' a²* on the inner surface, which ribs are separated circumferentially from each other a distance equal to the width of the ribs *b' b²*, as shown on Fig. 5. The two sets of ribs on the breech-bolt and breech-casing are so arranged that when the breech-bolt *b* is inserted into the breech-casing *a* the bolt must be turned in order to permit the ribs *b' b²* to pass through the grooves between the ribs *a' a²*.

The breech-casing has at one side a guide-bar *c*, Figs. 1 and 3, upon which the slide *d*, provided with a head or handle *d'*, can move in the direction of the length of the barrel. The slide *d* is provided with a projecting pin *d⁰*, Figs. 1 and 6, that passes into an inclined or spiral groove *b⁰*, Figs. 1, 2 and 6, of the breech-bolt *b*.

During the forward and backward movements of the slide *d* on the guide-bar *c* the breech-bolt is moved in the direction of the length of the axis of the barrel in the breech-casing, but in such a manner that at the beginning of the movement toward the rear, and likewise at the end of the movement toward the front, said breech-bolt is turned by the action of the pin *d⁰* on the edges of the groove *b⁰*. The bolt is turned axially and by this movement causes the breech-bolt to close absolutely tight, as the ribs *b' b²* and *a' a²* have their ends beveled, and by the action on each other of the beveled ends of said ribs the breech-bolt is forced to the front.

Upon the beginning of the opening movement of the bolt, said bolt is first turned axially to unlock the same, and at the same time the cartridge, which is gripped by the well-known extractor-jaws, (not shown in this case,) is loosened. In order that the axial movement of the breech-bolt should begin and cease at the proper time, an adjusting device is provided, which consists of the latch *e*, Figs. 2, 3, and 8, which is provided with a pin that passes into an aperture in the knob *d'* of the slide and is pressed by a spring *e'* toward the axis of the barrel and breech, whereby the pin *e'* of the latch passes into the aperture *b'* of the bolt. Said pin *e'* can only pass into the aperture *b'* when the slide *d* with the pin *d'* has traversed the length of the inclined or spiral groove *b'* and has turned the breech-bolt axially, and when the latch *e* has arrived at the curved tapered end of the plate *f* attached to the breech-casing *a*, when said pin *e'* can be pushed forward by its spring. When moving the breech-block toward the front, an axial movement for the purpose of forcing the breech forward can only take place after the latch *e* has been pressed outward by the curved end of the plate *f*, and thereby the pin *e'* moved out of the aperture of the breech-bolt. (See Figs. 2 and 8.) By reason of the double row of locking-ribs *b'* *b''* and *a'* *a''*, the breech-bolt is locked doubly secure and the rear ribs *a''* act as stops for the bolt *b*. The breech-casing *a* is further provided with an attachment which permits of firing the gun automatically or without operating the trigger *g*. The trigger-spring *i*, Fig. 7, is cut longitudinal, so as to consist of two spring-shanks *i'* and *i''*, of which one shank, *i'*, can be pressed downward by the arm *g'* of the trigger, as shown in Fig. 5, whereas the other shank, *i''*, is not acted upon. As the breech-bolt moves not only longitudinally when closing the breech, but also moves axially, the firing-pin, which is provided with a lug *h* projecting through a longitudinal slot *b''* in the breech-bolt, must participate in this axial movement, and when the trigger is held in the position shown in Fig. 5 the lug *h* of the firing-pin first engages the end of the shank *i'* of the trigger-spring. As said axial movement continues until the lug *h* arrives above the end of the shank *i'* of the trigger-spring, and when said trigger-spring is held in lowered position, said lug *h* cannot engage the same and consequently is released, permitting the firing-pin to be forced forward by its spring to explode the cartridge. The trigger is held in position, as shown in Fig. 5, by an arm *k'* on the shaft *k*, which shaft can be turned by means of a small spring-lever *m* fixed on said shaft within a proper recess in the side of the stock, a projection of said lever *m* snapping into the depression of a plate *l* on the side of the stock, whereby said lever *m* is locked in place and also locks the trigger in place, as shown in Fig. 5.

For the purpose of locking the loaded fire-

arm in such a manner that it cannot be fired, the spring-lever *m* is turned so that the hook *k''* on the shaft *k* engages the lug *h''* of the trigger-lever, (see Fig. 1,) thus preventing the latter from being operated. In this position also the spring-lever snaps into a suitable depression for the purpose of locking said spring-lever *m* and the trigger in place. If the lever *m* is locked in a position midway between those described, it permits the trigger to be operated in the usual manner, and the gun can be loaded and fired in the usual manner.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a firearm, the combination, with a breech-casing, of a longitudinally-movable and axially-rotative breech-bolt, provided with an inclined or spiral slot, a slide guided on the breech-casing, a pin projecting from the slide into the incline or spiral groove of the bolt, and a latch on said slide, being pressed by a spring into an aperture of the bolt, substantially as set forth.

2. In a firearm, the combination, with a breech-casing, a guide-bar attached to the side of the casing, a slide mounted on said bar, a pin projecting from the slide, a longitudinally-movable and axially-rotative breech-bolt, having an inclined or spiral groove into which the pin on the slide passes, and a latch on said slide being pressed by a spring into an aperture of the bolt, substantially as set forth.

3. In a firearm, the combination, with a breech-casing, of a longitudinally-movable and axially-rotative breech-bolt having an inclined or spiral groove, a slide guided on the breech-casing, a pin projecting from said slide into the inclined spiral groove, a latch on the slide which latch can pass into an aperture in the breech-bolt, and a plate having a tapered or curved end and being secured on the casing in the line of movement of said latch, substantially as set forth.

4. In a firearm, the combination with a breech-casing, of a longitudinally-movable and axially-rotatable breech-bolt, a firing-pin in said bolt which is provided with a lug projecting through a slot in the breech-bolt, and a projection arranged in the path of the longitudinal movement of the firing-pin and forming a stop, said lug being enabled to rotate with the breech-bolt and adapted to slide off the stop when the bolt is turned axially, substantially as set forth.

5. In a firearm, the combination with a breech-casing, of a longitudinally-movable and axially-rotatable breech-bolt, a firing-pin adapted to rotate with the bolt, a lug on said pin projecting through a slot in the breech-bolt, a trigger-spring having two shanks, each provided with a projection extending into the line of movement of the lug on the firing-pin, and a trigger for actuating or depressing one of said shanks while the projection of the

other shank is adapted to act as a stop for retaining the lug of the firing-pin until the axial rotation of the bolt has been completed, substantially as set forth.

5 6. In a firearm, the combination with a breech-casing, of a longitudinally-movable and axially-rotatable breech-bolt, a firing-pin adapted to rotate with the bolt and having a lug projecting through a slot of the bolt, a
10 trigger-spring constructed with two shanks, each provided with a projection, a trigger adapted to actuate one of said shanks and having a laterally-projecting lug, and a trigger-locking lever mounted movably in the

stock and provided with two arms, one of 15 which is adapted to engage the said lug on the trigger and hold the same in forward position, while the other is adapted to engage the trigger and hold it in backward or pulled position, substantially as set forth. 20

In testimony whereof I hereunto sign my name, in the presence of two subscribing witnesses, this 23d day of January, 1893.

MANUEL MONDRAGON.

Witnesses:

C. SANCHEZ NAVARRO,
JOSE REYES.